

## Abstract of the Disclosure

A method generates an adaptively sampled distance field of an object by first defining a candidate cell of the adaptively sampled distance field. Then, distance values for the candidate cell are determined and stored in a bounded distance tree. The candidate cell is recursively subdividing into subdivided cells of the adaptively sampled distance field while determining and storing corresponding distance values of the subdivided cells in the bounded distance tree until a termination condition is reached. Lastly, the distance values are appended to the corresponding cells to generate the adaptively sampled distance field of the object.